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DATE: Thursday, April 14, 2005

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☐	L22	6861242	1
☐	L21	6642038	1
		DB=PGPB; PLUR=YES; OP=ADJ	
☐	L15	20030148460	1
☐	L14	20020025550	1
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L13	6770468	1
☐	L12	6670165	1
☐	L11	6537785	1
☐	L10	6534300	3
☐	L9	L8.pn.	1
☐	L8	5733761	62
☐	L7	L4 and kifunensine	0
☐	L6	L4 and inhibitor	7
☐	L5	L4 and mannosidase	0
☐	L4	L3 and glucocerebrosidase	13
☐	L3	L1 and gene activat$3	126
☐	L2	L1.PN.	1
☐	L1	5641670	242

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                   (ROSPATENT) added to list of core patent offices covered
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 NEWS  9  MAR 03   MEDLINE file segment of TOXCENTER reloaded
 NEWS  10 MAR 22   KOREAPAT now updated monthly; patent information enhanced
 NEWS  11 MAR 22   Original IDE display format returns to REGISTRY/ZREGISTRY
 NEWS  12 MAR 22   PATDPASPC - New patent database available
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=> s glucocerebrosidase (10a) kifunensine
L1            4 GLUCOCEREBROSIDASE (10A) KIFUNENSINE

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2            3 DUP REM L1 (1 DUPLICATE REMOVED)
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=> d 1-3

L2    ANSWER 1 OF 3  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
      DUPLICATE 1
AN    2003-21941  BIOTECHDS
TI    Preparing a highly phosphorylated acid beta-glucocerebrosidase for
      treating Gaucher's disease comprises contacting an acid
      beta-glucocerebrosidase with N-acetylglucosaminyl (GlcNAc)
      phosphotransferase and phosphodiester alpha-GlcNAcase;
         involving vector-mediated gene transfer and expression in host cell
         for use in gene therapy
AU    CANFIELD W M
PA    GENZYME GLYCOBIOLOGY RES INST INC
PI    WO 2003056897 17 Jul 2003
AI    WO 2002-US37623 20 Dec 2002
PRAI  US 2001-24197 21 Dec 2001; US 2001-24197 21 Dec 2001
DT    Patent
LA    English
OS    WPI: 2003-587057 [55]

L2   ANSWER 2 OF 3  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2003:550993  HCAPLUS
DN   139:112730
TI   Method for production of highly phosphorylated human acid
     .beta.-glucocerebrosidase (GBA), and use of GBA in treating bone or lung
     tissue of patient with Gaucher's disease
IN   Canfield, William
PA   Novazyme Pharmaceuticals, Inc., USA
SO   U.S. Pat. Appl. Publ., 54 pp.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
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PI US 2003133924 A1 20030717 US 2001-24197 20011221
    WO 2003056897 A3 20041209 WO 2002-US37623 20021220
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
           CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
           GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
           LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
           PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
           UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
           KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
           FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,
           CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI US 2001-24197 A 20011221

L2 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:157596 HCAPLUS
DN 136:199031
TI High mannose proteins and methods of making high mannose proteins
IN Kinoshita, Carol A.; Prashsant, Mishra; Borowski, Marianne;
    Francis-Daniel, Peter
PA Transkaryotic Therapies, Inc., USA
SO PCT Int. Appl., 74 pp.
    CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002015927	A1	20020228	WO 2001-US25882	20010817
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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	CA 2388041	AA	20020228	CA 2001-2388041	20010817
	AU 2001085061	A5	20020304	AU 2001-85061	20010817
	EP 1309340	A1	20030514	EP 2001-964176	20010817
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	JP 2004506438	T2	20040304	JP 2002-520848	20010817
PRAI	US 2000-641471	A1	20000818		
	WO 2001-US25882	W	20010817		

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                        ENTRY    SESSION
FULL ESTIMATED COST                                     21.16      21.37

=> s glucocerebrosidase and kifunensine
L3            7 GLUCOCEREBROSIDASE AND KIFUNENSINE

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4            4 DUP REM L3 (3 DUPLICATES REMOVED)

=> s l4 not l2
L5            2 L4 NOT L2

=> d 1,2

L5    ANSWER 1 OF 2  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AN    2002-12737  BIOTECHDS
TI    Producing a high mannose   ***glucocerebrosidase***   (GCB) useful for
      treating Gaucher's Disease comprises preventing removal of at least one
      mannose residue distal to the pentasaccharide core of the precursor
      oligosaccharide of GCB;
         vector-mediated transfer, expression in host cell, antisense
         oligonucleotide and mannosidase gene knockout for recombinant protein
         production and gene therapy
AU    KINOSHITA C A; PRASHSANT M; BOROWSKI M; FRANCIS-DANIEL P
PA    TRANSKARYOTIC THERAPIES INC
PI    WO 2002015927 28 Feb 2002
AI    WO 2000-US25882 18 Aug 2000
PRAI  US 2000-641471 18 Aug 2000
DT    Patent
LA    English
OS    WPI: 2002-315449 [35]

L5   ANSWER 2 OF 2  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
AN   2001-290356 [30]   WPIDS
DNC  C2001-088895
TI   Novel N-acetylglucosamine-1-phosphotransferase and N-acetylglucosamine-1-
     phosphodiester alpha-N-Acetylglucosaminidase, useful for producing
     phosphorylated lysosomal hydrolase for treating lysosomal storage
     diseases.
DC   B04 D16
IN   CANFIELD, W M
PA   (CANF-I) CANFIELD W M; (NOVA-N) NOVAZYME PHARM INC; (GENZ-N) GENZYME
     GLYCOBIOLOGY RES INST INC
CYC  95
PI   WO 2001019955   A2 20010322 (200130)* EN   91     C12N000-00
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            NL OA PT SD SE SL SZ TZ UG ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM
            DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
            LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
            SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
     AU 2000073303   A  20010417 (200140)             C12N000-00
     US 2002025550   A1 20020228 (200220)             C12P021-06
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EP 1224266 A2 20020724 (200256) EN C12N009-12
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
BR 2000014514 A 20020723 (200257) C12N009-12
US 2002150981 A1 20021017 (200270) C12P021-06
JP 2003509043 W 20030311 (200319) 94 C12N015-09
US 6534300 B1 20030318 (200322) C12N009-14
US 6537785 B1 20030325 (200325) A61K038-47
US 2003148460 A1 20030807 (200358) C12P021-02
US 6642038 B1 20031104 (200374) C12N009-14
US 6670165 B2 20031230 (200402) C12N009-14
US 6770468 B1 20040803 (200451) C12N009-16
MX 2002002901 A1 20031201 (200470) A61K038-44
US 6828135 B2 20041207 (200480) C12N009-16
US 6861242 B2 20050301 (200516) C12N009-14

ADT WO 2001019955 A2 WO 2000-US21970 20000914; AU 2000073303 A AU 2000-73303 20000914; US 2002025550 A1 Provisional US 1999-153831P 19990914, Cont of US 2000-635872 20000810, US 2001-895072 20010702; EP 1224266 A2 EP 2000-961335 20000914, WO 2000-US21970 20000914; BR 2000014514 A BR 2000-14514 20000914, WO 2000-US21970 20000914; US 2002150981 A1 Provisional US 1999-153831P 19990914, Div ex US 2000-635872 20000810, US 2001-986552 20011109; JP 2003509043 W WO 2000-US21970 20000914, JP 2001-523727 20000914; US 6534300 B1 Provisional US 1999-153831P 19990914, US 2000-635872 20000810; US 6537785 B1 Provisional US 1999-153831P 19990914, US 2000-636077 20000810; US 2003148460 A1 Provisional US 1999-153831P 19990914, Div ex US 2000-636596 20000810, US 2002-306686 20021129; US 6642038 B1 Provisional US 1999-153831P 19990914, US 2000-636060 20000810; US 6670165 B2 Provisional US 1999-153831P 19990914, Div ex US 2000-635872 20000810, US 2001-986552 20011109; US 6770468 B1 Provisional US 1999-153831P 19990914, US 2000-636596 20000810; MX 2002002901 A1 WO 2000-US21970 20000914, MX 2002-2901 20020314; US 6828135 B2 Provisional US 1999-153831P 19990914, Div ex US 2000-636596 20000810, US 2002-306686 20021129; US 6861242 B2 Provisional US 1999-153831P 19990914, Cont of US 2000-635872 20000810, US 2001-895072 20010702

FDT AU 2000073303 A Based on WO 2001019955; EP 1224266 A2 Based on WO 2001019955; BR 2000014514 A Based on WO 2001019955; JP 2003509043 W Based on WO 2001019955; US 6670165 B2 Div ex US 6534300; MX 2002002901 A1 Based on WO 2001019955; US 6861242 B2 Cont of US 6534300

PRAI US 1999-153831P 19990914; US 2000-635872 20000810;
US 2001-895072 20010702; US 2001-986552 20011109;
US 2000-636077 20000810; US 2000-636596 20000810;
US 2002-306686 20021129; US 2000-636060 20000810

IC ICM A61K038-44; A61K038-47; C12N000-00; C12N009-12; C12N009-14; C12N009-16; C12N015-09; C12P021-02; C12P021-06
ICS A61K038-46; A61K038-51; A61P043-00; C07H021-04; C07K014-00; C07K016-40; C12N001-15; C12N001-19; C12N001-20; C12N001-21; C12N005-06; C12N005-10; C12N009-10; C12N009-24; C12N009-26; C12N009-36; C12N015-00; C12N015-63

=> d 2 ab

L5 ANSWER 2 OF 2 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AB WO 200119955 A UPAB: 20010603

NOVELTY - Isolated human N-acetylglucosamine-1-phosphotransferase (GlcNAc-phosphotranferase) (I) and phosphodiester alpha -GlcNAcase (N-acetylglucosamine-1-phosphodiester alpha -N-Acetylglucosaminidase) (II), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) isolated nucleic acids (III) and (IV), encoding (I) and (II), respectively;

(2) isolated nucleic acids which hybridize under stringent conditions to (III) or (IV);

(3) vector (V) comprising (III) or (IV);

(4) host cell (VI) comprising (V);

(5) preparation of (I) or (II);

(6) isolated nucleic acids (VII) and (VIII) encoding the murine GlcNAc-phosphotransferase which has a fully defined alpha -subunit sequence of (S15), a beta -subunit sequence of (S18), and gamma -subunit sequence of (S9); and murine phosphodiester alpha -GlcNAcase comprising a

sequence (S19), respectively (sequencing listing not provided in the specification);

(7) nucleic acids which hybridize under stringent conditions to (VII) or (VIII);

(8) a vector comprising (VII) or (VIII);

(9) a cell comprising (VII) or (VIII);

(10) preparation of murine GlcNAc-phosphotransferase and phosphodiester alpha -GlcNAcase;

(11) purified lysosomal hydrolase comprising a mannose 6-phosphate;

(12) phosphorylated lysosomal hydrolase obtained by (M1);

(13) producing a high mannose lysosomal hydrolase (M2) involves culturing transformed cells comprising a recombinant polynucleotide which encodes for a recombinant hydrolase in the presence of an alpha 1,2-mannosidase inhibitor, and recovering high mannose recombinant hydrolases from the culture;

(14) a high mannose lysosomal hydrolase produced by the above method;

(15) antibodies (IX) and (X) which bind (I) and (II), produced by PT18 hybridoma deposited at ATCC under accession No.PTA 2432; or produced by UC1 hybridoma deposited at ATCC under accession No.2431, respectively;

(16) producing (I) or (II) in a cell involves transfecting into the cell a DNA construct comprising a targeting sequence homologous to a target site within or upstream of a endogenous GlcNAc-phosphotransferase gene (which comprises a sequence of 5597 base pairs (S4) or (S5)), or phosphodiester alpha -GlcNAcase contained in the cell, an exogenous regulatory sequence, an exon, and an unpaired splice-donor site at the 3' end of the exon. Transfecting generates a homologously recombinant cell in which the splice-donor site is operatively linked to the second exon of the endogenous gene, and the exogenous regulatory sequence controls transcription of the construct driven, the endogenous gene, and any sequence lysing between the construct-driven exon and the endogenous gene, to produce a RNA transcript that encodes (I) or (II), so that the homologously recombinant cell produces (I) or (II) (sequencing listing not provided in the specification);

(17) isolated amino acid sequences comprising (S1) (alpha -subunit of (I)), (S2) (beta -subunit of (I)), (S3) (gamma -subunit of (I));

(18) isolated nucleic acids (XI) encoding the alpha , beta , gamma subunits of (I);

(19) an isolated nucleic acid which hybridizes to (XI);

(20) a vector comprising (XI); and

(21) a host cell comprising (XI).

ACTIVITY - Nephrotropic. No supporting data is given.

MECHANISM OF ACTION - Enzyme replacement therapy.

USE - (I), (II) is useful for preparing (M1) a phosphorylated lysosomal hydrolase (alpha -glucosidase, alpha -iduronidase, alpha -galactosidase A, arylsulfatase, N-acetylgalactosamine-6-sulfatase, beta -galactosidase, iduronate 2-sulfatase, ceramidase, galactocerebrosidase, B-glucoronidase, Heparan N-sulfatase, N-acetyl- alpha -glucosaminidase, Acetyl CoA- alpha -glucosaminide N-acetyl transferase, N-acetyl-glucosamine-6 sulfatase, Galactose 6-sulfatase, Arylsulfatase A, Arylsulfatase B, Arylsulfatase C, Arylsulfatase A Cerebroside, Ganglioside, Acid beta -galactosidase GM1 Galglioside, Acid beta -galactosidase, Hexosaminidase A, Hexosaminidase B, alpha -fucosidase, alpha -N-Acetyl galactosaminidase, Glycoprotein Neuraminidase, Aspartylglucosamine amidase, Acid Lipase, Acid Ceramidase, Lysosomal Sphingomyelinase, Sphingomyelinase, and ***Glucocerebrosidase*** beta -Glucosidase) which involves contacting the lysosomal hydrolase with (I) to produce a modified lysosomal hydrolase which is contacted with an isolated phosphodiester alpha -GlcNAcase. The phosphorylated hydrolase comprising a terminal mannose-6-phosphate, produced by the above mentioned method is useful for treating a patient suffering from a lysosomal storage disease such as pompe disease, Hurler syndrome, Fabry disease, Maroteaux-Lamy syndrome, Morquio syndrome, Hunter syndrome, Farber disease, Krabbe disease, Sly syndrome, Sanfilippo A, Sanfilippo B, Sanfilippo D, Multiple Sulfatase Deficiency, Metachromatic Leukodystrophy, Mucolipidosis IV, GM1 gangliosidosis, galactosialidosis, Tay-Sachs, Sandhof, Fucsidosis, Schindler disease, sialidosis, Aspartyglucosaminuria, Wolman disease, Farber lipogranulomatosis, Nieman-Pick, and Gaucher disease. (IX) and (X) are useful for isolating (I) and (II), respectively which involves contacting a cellular lysate containing (I) or (II) with (IX) or (X), to form a complex and then isolating the (I)-(IX), or (II)-(X) complex (claimed).

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=> d glucocerebrosidase and mannose
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'AND' IS NOT A VALID FORMAT
'MANNOSE' IS NOT A VALID FORMAT
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'MANNOSE' IS NOT A VALID FORMAT
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AN    2002-12737  BIOTECHDS
TI    Producing a high mannose   ***glucocerebrosidase***   (GCB) useful for
      treating Gaucher's Disease comprises preventing removal of at least one
      mannose residue distal to the pentasaccharide core of the precursor
      oligosaccharide of GCB;
         vector-mediated transfer, expression in host cell, antisense
         oligonucleotide and mannosidase gene knockout for recombinant protein
         production and gene therapy
AU    KINOSHITA C A; PRASHSANT M; BOROWSKI M; FRANCIS-DANIEL P
PA    TRANSKARYOTIC THERAPIES INC
PI    WO 2002015927 28 Feb 2002
AI    WO 2000-US25882 18 Aug 2000
PRAI  US 2000-641471 18 Aug 2000
DT    Patent
LA    English
OS    WPI: 2002-315449 [35]


=> s glucocerebrosidase and mannose
L6          320 GLUCOCEREBROSIDASE AND MANNOSE

=> s glucocerebrosidase (5a) mannose
L7          161 GLUCOCEREBROSIDASE (5A) MANNOSE

=> s glucocerebrosidase (5a) mannose (5a)mannosidase
L8            3 GLUCOCEREBROSIDASE (5A) MANNOSE (5A) MANNOSIDASE

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9            2 DUP REM L8 (1 DUPLICATE REMOVED)

=> d 1,2

L9    ANSWER 1 OF 2  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
      DUPLICATE 1
AN    2003-21941  BIOTECHDS
TI    Preparing a highly phosphorylated acid beta-glucocerebrosidase for
      treating Gaucher's disease comprises contacting an acid
      beta-glucocerebrosidase with N-acetylglucosaminyl (GlcNAc)
      phosphotransferase and phosphodiester alpha-GlcNAcase;
         involving vector-mediated gene transfer and expression in host cell
         for use in gene therapy
AU    CANFIELD W M
PA    GENZYME GLYCOBIOLOGY RES INST INC
PI    WO 2003056897 17 Jul 2003
AI    WO 2002-US37623 20 Dec 2002
PRAI  US 2001-24197 21 Dec 2001; US 2001-24197 21 Dec 2001
DT    Patent
```

LA English
OS WPI: 2003-587057 [55]

L9 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:157596 HCAPLUS
DN 136:199031
TI High mannose proteins and methods of making high mannose proteins
IN Kinoshita, Carol A.; Prashsant, Mishra; Borowski, Marianne;
    Francis-Daniel, Peter
PA Transkaryotic Therapies, Inc., USA
SO PCT Int. Appl., 74 pp.
    CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002015927	A1	20020228	WO 2001-US25882	20010817
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2388041	AA	20020228	CA 2001-2388041	20010817
	AU 2001085061	A5	20020304	AU 2001-85061	20010817
	EP 1309340	A1	20030514	EP 2001-964176	20010817
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004506438	T2	20040304	JP 2002-520848	20010817
PRAI	US 2000-641471	A1	20000818		
	WO 2001-US25882	W	20010817		

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
           ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 1 kwic

L9 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
AB. . . transfected cells comprising a recombinant polynucleotide which encodes a recombinant acid beta-glucocerebrosidase in the presence of at least one alpha 1,2- ***mannosidase*** inhibitor; recovering a high ***mannose*** recombinant acid beta- ***glucocerebrosidase*** from the transfected cell; contacting the high mannose recombinant acid beta-glucocerebrosidase with an isolated GlcNAc phosphotransferase to produce a modified. . .

=> dis his

(FILE 'HOME' ENTERED AT 20:13:39 ON 14 APR 2005)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 20:13:49 ON 14 APR 2005

L1	4	S GLUCOCEREBROSIDASE (10A) KIFUNENSINE
L2	3	DUP REM L1 (1 DUPLICATE REMOVED)
L3	7	S GLUCOCEREBROSIDASE AND KIFUNENSINE
L4	4	DUP REM L3 (3 DUPLICATES REMOVED)
L5	2	S L4 NOT L2
L6	320	S GLUCOCEREBROSIDASE AND MANNOSE
L7	161	S GLUCOCEREBROSIDASE (5A) MANNOSE
L8	3	S GLUCOCEREBROSIDASE (5A) MANNOSE (5A)MANNOSIDASE
L9	2	DUP REM L8 (1 DUPLICATE REMOVED)

=> s kifunensine (5a) deoxymannojirimycin
L10 111 KIFUNENSINE (5A) DEOXYMANNOJIRIMYCIN

=> s l10 and glucocerebrosidase

```
L11          4 L10 AND GLUCOCEREBROSIDASE

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12           3 DUP REM L11 (1 DUPLICATE REMOVED)

=> d 1-3

L12   ANSWER 1 OF 3  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
      DUPLICATE 1
AN    2003-21941  BIOTECHDS
TI    Preparing a highly phosphorylated acid beta-  ***glucocerebrosidase***
      for treating Gaucher's disease comprises contacting an acid beta-
        ***glucocerebrosidase***   with N-acetylglucosaminyl (GlcNAc)
      phosphotransferase and phosphodiester alpha-GlcNAcase;
         involving vector-mediated gene transfer and expression in host cell
         for use in gene therapy
AU    CANFIELD W M
PA    GENZYME GLYCOBIOLOGY RES INST INC
PI    WO 2003056897 17 Jul 2003
AI    WO 2002-US37623 20 Dec 2002
PRAI  US 2001-24197 21 Dec 2001; US 2001-24197 21 Dec 2001
DT    Patent
LA    English
OS    WPI: 2003-587057 [55]

L12  ANSWER 2 OF 3  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
AN   2002-315449 [35]   WPIDS
DNC  C2002-091820
TI   Producing a high mannose   ***glucocerebrosidase***   (GCB) useful for
     treating Gaucher's Disease comprises preventing removal of at least one
     mannose residue distal to the pentasaccharide core of the precursor
     oligosaccharide of GCB.
DC   B04 D16
IN   BOROWSKI, M; FRANCIS-DANIEL, P; KINOSHITA, C A; PRASHSANT, M; KINOSHITA, C
     M
PA   (TRAN-N) TRANSKARYOTIC THERAPIES INC
CYC  97
PI   WO 2002015927   A1 20020228 (200235)* EN   74    A61K038-47
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU
            SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
     AU 2001085061   A  20020304 (200247)             A61K038-47
     CN 1392797      A  20030122 (200332)             A61K038-47
     EP 1309340      A1 20030514 (200333)  EN         A61K038-47
         R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
            RO SE SI TR
     JP 2004506438   W  20040304 (200417)      124    C12N009-24
     MX 2002003894   A1 20030701 (200420)             A61K038-47
ADT  WO 2002015927 A1 WO 2001-US25882 20010817; AU 2001085061 A AU 2001-85061
     20010817; CN 1392797 A CN 2001-802801 20010817; EP 1309340 A1 EP
     2001-964176 20010817, WO 2001-US25882 20010817; JP 2004506438 W WO
     2001-US25882 20010817, JP 2002-520848 20010817; MX 2002003894 A1 WO
     2001-US25882 20010817, MX 2002-3894 20020418
FDT  AU 2001085061 A Based on WO 2002015927; EP 1309340 A1 Based on WO
     2002015927; JP 2004506438 W Based on WO 2002015927; MX 2002003894 A1 Based
     on WO 2002015927
PRAI US 2000-641471      20000818
IC   ICM  A61K038-47; C12N009-24
     ICS  A61K038-43; A61P003-06; C07D211-46; C12N005-10; C12N009-42;
          C12N009-99; C12N015-09; C12N015-56; C12N015-85

L12  ANSWER 3 OF 3  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
AN   2001-290356 [30]   WPIDS
DNC  C2001-088895
TI   Novel N-acetylglucosamine-1-phosphotransferase and N-acetylglucosamine-1-
     phosphodiester alpha-N-Acetylglucosaminidase, useful for producing
     phosphorylated lysosomal hydrolase for treating lysosomal storage
```

diseases.
DC B04 D16
IN CANFIELD, W M
PA (CANF-I) CANFIELD W M; (NOVA-N) NOVAZYME PHARM INC; (GENZ-N) GENZYME GLYCOBIOLOGY RES INST INC
CYC 95
PI WO 2001019955 A2 20010322 (200130)* EN 91 C12N000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2000073303 A 20010417 (200140) C12N000-00
US 2002025550 A1 20020228 (200220) C12P021-06
EP 1224266 A2 20020724 (200256) EN C12N009-12
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
BR 2000014514 A 20020723 (200257) C12N009-12
US 2002150981 A1 20021017 (200270) C12P021-06
JP 2003509043 W 20030311 (200319) 94 C12N015-09
US 6534300 B1 20030318 (200322) C12N009-14
US 6537785 B1 20030325 (200325) A61K038-47
US 2003148460 A1 20030807 (200358) C12P021-02
US 6642038 B1 20031104 (200374) C12N009-14
US 6670165 B2 20031230 (200402) C12N009-14
US 6770468 B1 20040803 (200451) C12N009-16
MX 2002002901 A1 20031201 (200470) A61K038-44
US 6828135 B2 20041207 (200480) C12N009-16
US 6861242 B2 20050301 (200516) C12N009-14
ADT WO 2001019955 A2 WO 2000-US21970 20000914; AU 2000073303 A AU 2000-73303 20000914; US 2002025550 A1 Provisional US 1999-153831P 19990914, Cont of US 2000-635872 20000810, US 2001-895072 20010702; EP 1224266 A2 EP 2000-961335 20000914, WO 2000-US21970 20000914; BR 2000014514 A BR 2000-14514 20000914, WO 2000-US21970 20000914; US 2002150981 A1 Provisional US 1999-153831P 19990914, Div ex US 2000-635872 20000810, US 2001-986552 20011109; JP 2003509043 W WO 2000-US21970 20000914, JP 2001-523727 20000914; US 6534300 B1 Provisional US 1999-153831P 19990914, US 2000-635872 20000810; US 6537785 B1 Provisional US 1999-153831P 19990914, US 2000-636077 20000810; US 2003148460 A1 Provisional US 1999-153831P 19990914, Div ex US 2000-636596 20000810, US 2002-306686 20021129; US 6642038 B1 Provisional US 1999-153831P 19990914, US 2000-636060 20000810; US 6670165 B2 Provisional US 1999-153831P 19990914, Div ex US 2000-635872 20000810, US 2001-986552 20011109; US 6770468 B1 Provisional US 1999-153831P 19990914, US 2000-636596 20000810; MX 2002002901 A1 WO 2000-US21970 20000914, MX 2002-2901 20020314; US 6828135 B2 Provisional US 1999-153831P 19990914, Div ex US 2000-636596 20000810, US 2002-306686 20021129; US 6861242 B2 Provisional US 1999-153831P 19990914, Cont of US 2000-635872 20000810, US 2001-895072 20010702
FDT AU 2000073303 A Based on WO 2001019955; EP 1224266 A2 Based on WO 2001019955; BR 2000014514 A Based on WO 2001019955; JP 2003509043 W Based on WO 2001019955; US 6670165 B2 Div ex US 6534300; MX 2002002901 A1 Based on WO 2001019955; US 6861242 B2 Cont of US 6534300
PRAI US 1999-153831P 19990914; US 2000-635872 20000810;
US 2001-895072 20010702; US 2001-986552 20011109;
US 2000-636077 20000810; US 2000-636596 20000810;
US 2002-306686 20021129; US 2000-636060 20000810
IC ICM A61K038-44; A61K038-47; C12N000-00; C12N009-12; C12N009-14; C12N009-16; C12N015-09; C12P021-02; C12P021-06
ICS A61K038-46; A61K038-51; A61P043-00; C07H021-04; C07K014-00; C07K016-40; C12N001-15; C12N001-19; C12N001-20; C12N001-21; C12N005-06; C12N005-10; C12N009-10; C12N009-24; C12N009-26; C12N009-36; C12N015-00; C12N015-63

=> d 3 kwic

L12 ANSWER 3 OF 3 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AB . . .
A, Hexosaminidase B, alpha -fucosidase, alpha -N-Acetyl galactosaminidase, Glycoprotein Neuraminidase, Aspartylglucosamine amidase, Acid Lipase, Acid

Ceramidase, Lysosomal Sphingomyelinase, Sphingomyelinase, and ***Glucocerebrosidase*** beta -Glucosidase) which involves contacting the lysosomal hydrolase with (I) to produce a modified lysosomal hydrolase which is contacted with. . .

TECH. . .
alpha-GlcNAcase, is prepared by standard recombinant techniques. In (M2), preferably a high mannose alpha-glucosidase is produced. The alpha-1,2-mannosidase inhibitor is ***deoxymannojirimycin*** (dMM), preferably, ***kifunensine*** , D-Mannonolactam amidrazone, and N-butyl-deoxymannojirimycin. Sequence listing not provided in the specification. The method preferably involves contacting a recombinant lysosomal hydrolase. . .

```
=> s l10 and mannos?
L13         111 L10 AND MANNOS?

=> s l10 and carbohydrate core
L14           0 L10 AND CARBOHYDRATE CORE

=> s l10 and carbohydrate
L15          43 L10 AND CARBOHYDRATE

=> dup rem l15
PROCESSING COMPLETED FOR L15
L16          13 DUP REM L15 (30 DUPLICATES REMOVED)

=> d 1-10

L16   ANSWER 1 OF 13  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
      DUPLICATE 1
AN    2004-00315  BIOTECHDS
TI    Producing a glycoprotein with reduced complex   ***carbohydrates***   by
      culturing the lectin resistant mammalian cell expressing the glycoprotein
      for treating lysosomal storage disease;
         recombinant protein production via host cell culture for use in
         disease therapy and gene therapy
AU    CANFIELD W M
PA    NOVAZYME PHARM INC
PI    US 2003124653 3 Jul 2003
AI    US 2001-23890 21 Dec 2001
PRAI  US 2001-23890 21 Dec 2001; US 2001-23890 21 Dec 2001
DT    Patent
LA    English
OS    WPI: 2003-810985 [76]

L16   ANSWER 2 OF 13  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
      DUPLICATE 2
AN    2004-00314  BIOTECHDS
TI    Producing a high mannose glycoprotein for treating lysosomal storage
      disease, comprises culturing the lectin resistant mammalian cell in the
      presence of   ***deoxymannojirimycin***   and   ***kifunensine***  ;
         protein production via host cell culture for use in disease therapy
         and gene therapy
AU    CANFIELD W M
PA    NOVAZYME PHARM INC
PI    US 2003124652 3 Jul 2003
AI    US 2001-23889 21 Dec 2001
PRAI  US 2001-23889 21 Dec 2001; US 2001-23889 21 Dec 2001
DT    Patent
LA    English
OS    WPI: 2003-810984 [76]

L16  ANSWER 3 OF 13     MEDLINE on STN                    DUPLICATE 3
AN   2003556750     MEDLINE
DN   PubMed ID: 14636047
TI   Comparison of   ***kifunensine***   and 1-  ***deoxymannojirimycin***
     binding to class I and II alpha-mannosidases demonstrates different
     saccharide distortions in inverting and retaining catalytic mechanisms.
AU   Shah Niket; Kuntz Douglas A; Rose David R
CS   Department of Medical Biophysics, University of Toronto, Ontario, Canada.
```

SO Biochemistry, (2003 Dec 2) 42 (47) 13812-6.
Journal code: 0370623. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS PDB-1PS3
EM 200403
ED Entered STN: 20031126
Last Updated on STN: 20040323
Entered Medline: 20040322

L16 ANSWER 4 OF 13 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2002-315449 [35] WPIDS
DNC C2002-091820
TI Producing a high mannose glucocerebrosidase (GCB) useful for treating Gaucher's Disease comprises preventing removal of at least one mannose residue distal to the pentasaccharide core of the precursor oligosaccharide of GCB.
DC B04 D16
IN BOROWSKI, M; FRANCIS-DANIEL, P; KINOSHITA, C A; PRASHSANT, M; KINOSHITA, C M
PA (TRAN-N) TRANSKARYOTIC THERAPIES INC
CYC 97
PI WO 2002015927 A1 20020228 (200235)* EN 74 A61K038-47
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001085061 A 20020304 (200247) A61K038-47
CN 1392797 A 20030122 (200332) A61K038-47
EP 1309340 A1 20030514 (200333) EN A61K038-47
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
JP 2004506438 W 20040304 (200417) 124 C12N009-24
MX 2002003894 A1 20030701 (200420) A61K038-47
ADT WO 2002015927 A1 WO 2001-US25882 20010817; AU 2001085061 A AU 2001-85061 20010817; CN 1392797 A CN 2001-802801 20010817; EP 1309340 A1 EP 2001-964176 20010817, WO 2001-US25882 20010817; JP 2004506438 W WO 2001-US25882 20010817, JP 2002-520848 20010817; MX 2002003894 A1 WO 2001-US25882 20010817, MX 2002-3894 20020418
FDT AU 2001085061 A Based on WO 2002015927; EP 1309340 A1 Based on WO 2002015927; JP 2004506438 W Based on WO 2002015927; MX 2002003894 A1 Based on WO 2002015927
PRAI US 2000-641471 20000818
IC ICM A61K038-47; C12N009-24
ICS A61K038-43; A61P003-06; C07D211-46; C12N005-10; C12N009-42; C12N009-99; C12N015-09; C12N015-56; C12N015-85

L16 ANSWER 5 OF 13 MEDLINE on STN DUPLICATE 4
AN 2002120918 MEDLINE
DN PubMed ID: 11714724
TI Structure of Penicillium citrinum alpha 1,2-mannosidase reveals the basis for differences in specificity of the endoplasmic reticulum and Golgi class I enzymes.
AU Lobsanov Yuri D; Vallee Francois; Imberty Anne; Yoshida Takashi; Yip Patrick; Herscovics Annette; Howell P Lynne
CS Program in Structural Biology and Biochemistry, Research Institute, The Hospital for Sick Children, 555 University Ave., Toronto, Ontario M5G 1X8, Canada.
NC 31265
SO Journal of biological chemistry, (2002 Feb 15) 277 (7) 5620-30.
Electronic Publication: 2001-11-19.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS PDB-1KKT; PDB-1KRE; PDB-1KRF

EM 200203
ED Entered STN: 20020222
Last Updated on STN: 20030105
Entered Medline: 20020321

L16 ANSWER 6 OF 13 MEDLINE on STN DUPLICATE 5
AN 2000400996 MEDLINE
DN PubMed ID: 10913312
TI Role of calnexin, calreticulin, and endoplasmic reticulum mannosidase I in apolipoprotein(a) intracellular targeting.
AU Wang J; White A L
CS Center for Human Nutrition, University of Texas Southwestern Medical Center, Dallas, Texas 75235-9052, USA.
NC HL59541 (NHLBI)
SO Biochemistry, (2000 Aug 1) 39 (30) 8993-9000.
Journal code: 0370623. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200008
ED Entered STN: 20000901
Last Updated on STN: 20000901
Entered Medline: 20000824

L16 ANSWER 7 OF 13 MEDLINE on STN DUPLICATE 6
AN 2000102713 MEDLINE
DN PubMed ID: 10636901
TI Glucosidase and mannosidase inhibitors mediate increased secretion of mutant alpha1 antitrypsin Z.
AU Marcus N Y; Perlmutter D H
CS Departments of Pediatrics, Cell Biology and Physiology, Washington University School of Medicine, Division of Gastroenterology and Nutrition, Children's Hospital, St. Louis, Missouri 63110, USA.
NC DK52526 (NIDDK)
HL37884 (NHLBI)
T32 HD07409 (NICHD)
SO Journal of biological chemistry, (2000 Jan 21) 275 (3) 1987-92.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200002
ED Entered STN: 20000309
Last Updated on STN: 20000309
Entered Medline: 20000224

L16 ANSWER 8 OF 13 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN DUPLICATE 7
AN 1999261697 EMBASE
TI Identification, expression, and characterization of a cDNA encoding human endoplasmic reticulum mannosidase I, the enzyme that catalyzes the first mannose trimming step in mammalian Asn-linked oligosaccharide biosynthesis.
AU Gonzalez D.S.; Karaveg K.; Vandersall-Nairn A.S.; Lal A.; Moremen K.W.
CS K.W. Moremen, Dept. of Biochem./Molecular Biol., Life Sciences Bldg., University of Georgia, Athens, GA 30602, United States.
moremen@arches.uga.edu
SO Journal of Biological Chemistry, (23 Jul 1999) Vol. 274, No. 30, pp. 21375-21386.
Refs: 77
ISSN: 0021-9258 CODEN: JBCHA3
CY United States
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
ED Entered STN: 19990812
Last Updated on STN: 19990812

L16 ANSWER 9 OF 13 MEDLINE on STN DUPLICATE 8
AN 1999453869 MEDLINE
DN PubMed ID: 10521544
TI Cloning and expression of a specific human alpha 1,2-mannosidase that trims Man9GlcNAc2 to Man8GlcNAc2 isomer B during N-glycan biosynthesis.
AU Tremblay L O; Herscovics A
CS McGill Cancer Centre, Montreal, Quebec, Canada.
SO Glycobiology, (1999 Oct) 9 (10) 1073-8.
Journal code: 9104124. ISSN: 0959-6658.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-AF148509
EM 199911
ED Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991122

L16 ANSWER 10 OF 13 MEDLINE on STN
AN 1998387780 MEDLINE
DN PubMed ID: 9719679
TI Substrate specificities of recombinant murine Golgi alpha1, 2-mannosidases IA and IB and comparison with endoplasmic reticulum and Golgi processing alpha1,2-mannosidases.
AU Lal A; Pang P; Kalelkar S; Romero P A; Herscovics A; Moremen K W
CS Complex Carbohydrate Research Center and the Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA 30602, USA and the McGill Cancer Centre, McGill University, Montreal, Quebec, Canada.
NC GM31265 (NIGMS)
GM47533 (NIGMS)
RR05351 (NCRR)
SO Glycobiology, (1998 Oct) 8 (10) 981-95.
Journal code: 9104124. ISSN: 0959-6658.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199811
ED Entered STN: 19990106
Last Updated on STN: 19990106
Entered Medline: 19981117

=> d 3, 10 ab

L16 ANSWER 3 OF 13 MEDLINE on STN DUPLICATE 3
AB Mannosidases are key enzymes in the eukaryotic N-glycosylation pathway. These enzymes fall into two broad classes (I and II) and are characteristically different in catalytic mechanism, sequence, and structure. Kifunensine is an alkaloid that is a strong inhibitor against class I alpha-mannosidases but is only a weak inhibitor against class II alpha-mannosidases. In this paper, the 1.80 A resolution crystal structure of kifunensine bound to Drosophila melanogaster Golgi alpha-mannosidase II (dGMII) is presented. Kifunensine adopts a (1,4)B boat conformation in the class II dGMII, which contrasts the (1)C(4) chair conformation seen in class I human endoplasmic reticulum alpha1,2 mannosidase (hERMI, PDB). The observed conformations are higher in conformational energy than the global minimum (4)C(1) conformation, although the conformation in hERMI is closer to the minimum, as supported by an energy calculation. Differing conformations of 1-deoxymannojirimycin were also observed: a (4)C(1) and (1)C(4) conformation in dGMII and hERMI, respectively. Thus, these two alpha-mannosidase classes distort these inhibitors in distinct manners. This is likely indicative of the binding characteristics of the two different catalytic mechanisms of these enzymes.

L16 ANSWER 10 OF 13 MEDLINE on STN
AB The catalytic domains of murine Golgi alpha1,2-mannosidases IA and IB that are involved in N-glycan processing were expressed as secreted proteins in P.pastoris . Recombinant mannosidases IA and IB both required divalent

cations for activity, were inhibited by ***deoxymannojirimycin*** and ***kifunensine*** , and exhibited similar catalytic constants using Manalpha1,2Manalpha-O-CH3as substrate. Mannosidase IA was purified as a 50 kDa catalytically active soluble fragment and shown to be an inverting glycosidase. Recombinant mannosidases IA and IB were used to cleave Man9GlcNAc and the isomers produced were identified by high performance liquid chromatography and proton-nuclear magnetic resonance spectroscopy. Man9GlcNAc was rapidly cleaved by both enzymes to Man6GlcNAc, followed by a much slower conversion to Man5GlcNAc. The same isomers of Man7GlcNAc and Man6GlcNAc were produced by both enzymes but different isomers of Man8GlcNAc were formed. When Man8GlcNAc (Man8B isomer) was used as substrate, rapid conversion to Man5GlcNAc was observed, and the same oligosaccharide isomer intermediates were formed by both enzymes. These results combined with proton-nuclear magnetic resonance spectroscopy data demonstrate that it is the terminal alpha1, 2-mannose residue missing in the Man8B isomer that is cleaved from Man9GlcNAc at a much slower rate. When rat liver endoplasmic reticulum membrane extracts were incubated with Man9GlcNAc2, Man8GlcNAc2was the major product and Man8B was the major isomer. In contrast, rat liver Golgi membranes rapidly cleaved Man9GlcNAc2to Man6GlcNAc2and more slowly to Man5GlcNAc2. In this case all three isomers of Man8GlcNAc2were formed as intermediates, but a distinctive isomer, Man8A, was predominant. Antiserum to recombinant mannosidase IA immunoprecipitated an enzyme from Golgi extracts with the same specificity as recombinant mannosidase IA. These immunodepleted membranes were enriched in a Man9GlcNAc2to Man8GlcNAc2-cleaving activity forming predominantly the Man8B isomer. These results suggest that mannosidases IA and IB in Golgi membranes prefer the Man8B isomer generated by a complementary mannosidase that removes a single mannose from Man9GlcNAc2.

=> d 11-13

L16 ANSWER 11 OF 13 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
AN 93:11602 SCISEARCH
GA The Genuine Article (R) Number: KE603
TI ROLE OF TARGET-CELL GLYCOPROTEINS IN SENSITIVITY TO NATURAL-KILLER-CELL LYSIS
AU AHRENS P B (Reprint)
CS MED COLL WISCONSIN, DEPT BIOCHEM, 8701 WATERTOWN PLANK RD, MILWAUKEE, WI, 53226 (Reprint)
CYA USA
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (05 JAN 1993) Vol. 268, No. 1, pp. 385-391.
ISSN: 0021-9258.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 38
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L16 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:533894 HCAPLUS
DN 119:133894
TI The use of glycoprotein inhibitors to distinguish various mannosidases
AU Kaushal, G. P.; Elbein, A. D.
CS Dep. Biochem. Mol. Biol., Univ. Arkansas Med. Sci., Little Rock, AR, 72205, USA
SO Trends in Glycoscience and Glycotechnology (1993), 5(23), 209-18
CODEN: TGGLEE; ISSN: 0915-7352
DT Journal; General Review
LA English

L16 ANSWER 13 OF 13 MEDLINE on STN DUPLICATE 9
AN 92235070 MEDLINE
DN PubMed ID: 1533222
TI Characterization of the endomannosidase pathway for the processing of N-linked oligosaccharides in glucosidase II-deficient and parent mouse lymphoma cells.
AU Moore S E; Spiro R G

CS Department of Biological Chemistry and Medicine, Harvard Medical School, Boston, Massachusetts.
NC DK17477 (NIDDK)
SO Journal of biological chemistry, (1992 Apr 25) 267 (12) 8443-51.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199205
ED Entered STN: 19920612
Last Updated on STN: 19970203
Entered Medline: 19920528

=> d 11-13 ab

L16 ANSWER 11 OF 13 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
AB Natural killer cells select targets for lysis based on target cell glycoproteins. Compared to controls, K-562 cells treated with kifunensine, an inhibitor of Golgi mannosidase I, accumulate more high mannose-type asparagine-linked oligosaccharide, Man9GlcNAc2, and bind more concanavalin A, an oligomannosyl binding lectin. In addition, natural killer cell lysis of kifunensine-treated cells increases 34% over that of controls. Increased sensitivity to lysis occurs after treatment with other N-glycan processing inhibitors that promote accumulation of high mannose-type glycosides (***deoxymannojirimycin*** and swainsonine). In addition, ***kifunensine*** -treated cells form more effector:target conjugates. Monoclonal antibodies to the adhesion molecule LFA-1 and its ligand ICAM-1 reduce lysis of control targets but are less effective in blocking lysis of kifunensine-treated cells. K-562 cells bind anti-ICAM-1 but not anti-LFA-1, and this binding does not change after kifunensine treatment. These data demonstrate conclusively a role for asparagine-linked oligosaccharides in the human natural killer cell:target interaction. The presence of high mannose-type glycans on K-562 cells correlates with increased binding of effectors and a greater susceptibility to lysis. These results support the idea that target cell N-glycosides influence the NK-target interaction mediated by adhesion molecules such as ICAM-1.

L16 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AB A review, with 75 refs. A no. of compds. have been identified over the past 10 yr that inhibit specific glycosidases involved in the processing of N-linked oligosaccharides. These compds. include specific .alpha.-glucosidase and .alpha.-mannosidase inhibitors that block removal of either glucose or mannose residues at specific steps in the processing pathway, and cause the formation of altered ***carbohydrate*** structures. Many of these inhibitors have been widely used in cell culture to assess the role of specific oligosaccharide chains in the function of a given glycoprotein. In addn., these inhibitors have been useful tools to distinguish various glycosidases, as well as for producing affinity ligands for the purifn. of specific glycosidases. In particular, there are now several potent and selective inhibitors that show such activities towards the various .alpha.-mannosidases. With these inhibitors, a clear distinction can be made between the processing .alpha.-1,2 specific mannosidases (i.e., mannosidase I), mannosidase II that cleaves both .alpha.1,3 and .alpha.1,6 mannoses from the GlcNAcMan5(GlcNAc)2 substrate, and the broad-specificity .alpha.-mannosidases that release all of the .alpha.1,2, .alpha.1,3- and .alpha.1,6-linked mannoses from Man9-4(GlcNAc)2 structures. Thus, ***deoxymannojirimycin*** or ***kifunensine*** strongly inhibit the Golgi mannosidase I, but have no effect on the Golgi mannosidase II, aryl or lysosomal .alpha.-mannosidases, and broad-specificity mannosidases. On the other hand, swainsonine and mannostatin A strongly inhibit mannosidase II, but are inactive on mannosidase I or the ER .alpha.-mannosidase. In addn., a new inhibitor, D-mannonolactam amidrazone, is a general mannosidase inhibitor that has been synthesized chem., and this compd. would provide new insight into the design of other useful and more specific inhibitors for other .alpha.-mannosidases.

L16 ANSWER 13 OF 13 MEDLINE on STN DUPLICATE 9

AB Studies on N-linked oligosaccharide processing in the mouse lymphoma glucosidase II-deficient mutant cell line (PHAR2.7) as well as the parent BW5147 cells indicated that the former maintain their capacity to synthesize complex ***carbohydrate*** units through the use of the deglucosylation mechanism provided by endomannosidase. The in vivo activity of this enzyme was evident in the mutant cells from their production of substantial amounts of glucosylated mannose saccharides, predominantly Glc2Man; moreover, in the presence of 1-***deoxymannojirimycin*** or ***kifunensine*** to prevent processing by mannosidase I, N-linked Man8GlcNAc2 was observed entirely in the form of the characteristic isomer in which the terminal mannose of the alpha 1,3-linked branch is missing (isomer A). In contrast, parent lymphoma cells, as well as HepG2 cells in the presence of 1-deoxymannojirimycin accumulated Man9GlcNAc2 as the primary deglucosylated N-linked oligosaccharide and contained only about 16% of their Man8GlcNAc2 as isomer A. In the presence of the glucosidase inhibitor castanospermine the mutant released Glc3Man instead of Glc2Man, and the parent cells converted their deglucosylation machinery to the endomannosidase route. Despite the mutant's capacity to accommodate a large traffic through this pathway no increase in the in vitro determined endomannosidase activity was evident. The exclusive utilization of endomannosidase by the mutant for the deglucosylation of its predominant N-linked Glc2Man9GlcNAc2 permitted an exploration of the in vivo site of this enzyme's action. Pulse-chase studies utilizing sucrose-D2O density gradient centrifugation indicated that the Glc2Man9GlcNAc2 to Man8GlcNAc2 conversion is a relatively late event that is temporally separated from the endoplasmic reticulum-situated processing of Glc3Man9GlcNAc2 to Glc2Man9GlcNAc2 and in contrast to the latter takes place in the Golgi compartment.

=> dis his

(FILE 'HOME' ENTERED AT 20:13:39 ON 14 APR 2005)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 20:13:49 ON 14 APR 2005

L1	4	S GLUCOCEREBROSIDASE (10A) KIFUNENSINE
L2	3	DUP REM L1 (1 DUPLICATE REMOVED)
L3	7	S GLUCOCEREBROSIDASE AND KIFUNENSINE
L4	4	DUP REM L3 (3 DUPLICATES REMOVED)
L5	2	S L4 NOT L2
L6	320	S GLUCOCEREBROSIDASE AND MANNOSE
L7	161	S GLUCOCEREBROSIDASE (5A) MANNOSE
L8	3	S GLUCOCEREBROSIDASE (5A) MANNOSE (5A)MANNOSIDASE
L9	2	DUP REM L8 (1 DUPLICATE REMOVED)
L10	111	S KIFUNENSINE (5A) DEOXYMANNOJIRIMYCIN
L11	4	S L10 AND GLUCOCEREBROSIDASE
L12	3	DUP REM L11 (1 DUPLICATE REMOVED)
L13	111	S L10 AND MANNOS?
L14	0	S L10 AND CARBOHYDRATE CORE
L15	43	S L10 AND CARBOHYDRATE
L16	13	DUP REM L15 (30 DUPLICATES REMOVED)

=> log h

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CA SUBSCRIBER PRICE	-0.73	-0.73

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STN INTERNATIONAL SESSION SUSPENDED AT 20:40:50 ON 14 APR 2005